OBJECTIVES: HIPOS-ER is the first national Hypoglycemia study in Portugal collecting specific resource data directly in the hospitals. Here we aim to describe the average cost of severe hypoglycemic event by anti-hyperglycemic agent (AHA) class. **METHODS:** The study was conducted in 7 centers in mainland Portugal for a period of 12 months (Jan13-Jan14). Patient level data and resource utilization were collected. Unit costs for 2014 were extracted from official sources. Regarding emergency room (ER) attendance, costs were calculated multiplying resource use by corresponding unit costs. For hospitalization, length of stay was multiplied by daily cost obtained through hospital account record. AHA therapy classes were: Group 1 (insulin), Group 2 (secretagogue), Group 3 (oral AHA excluding secretagogue), and Group 4 (at least one insulin and one secretagogue). **RESULTS:** 238 patients were enrolled and 105 (44%) were hospitalized. The distribution based on AHA therapy: 55% (131) Group 1, 32% (75) Group 2, 7% (16) Group 3 and 7% (16) Group 4. After ER episode, Group 2 patients were more often hospitalized versus Group 1 (71% *vs.* 29%; $p<0.001$) and Group 4 (31%; $p=0.003$). The global cost was 1,493€ (34€-26,818€) and hospitalization was the main cost driver accounting for 85% of costs. The total cost per AHA class was: Group 1: 1,309€; Group 2: 1,880€; Group 3: 1,350€; Group 4: 1,330€. When comparing ER-only *vs.* hospitalized: Group 1: 167€ *vs.* 4,105€; Group 2: 185€ *vs.* 2,583€; Group 3: 156€ *vs.* 2,278€; Group 4: 237€ vs. 3,734€. Group 1 accounted for 48% of overall costs, Group 2 40%, Groups 3 and 4, 6% each. Group 2 had the highest hospitalization rate (70.7%). **CONCLUSIONS:** AHA classes may contribute differently for costs associated with severe hypoglycemia. Insulin based therapy had the greatest overall cost followed closely by secretagogue type drugs, which were associated with more hospitalizations.

PDB119

THE BURDEN OF SEVERE HYPOGLICAEMIAS AND DIABETES KETOACIDOSIS: A POPULATION-BASED STUDY

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OBJECTIVES: The aim of this study was to assess the burden of severe hypoglycemia (HYPO) and diabetes ketoacidosis (DKA) in terms of incidence, treatment patterns and cost in Italy. **METHODS:** Eligible patients were identified through a data warehouse (DENALI), which matches with a probabilistic linkage demographic, clinical and economic data of about 9.9 million individuals of Lombardy region. The study population was made of all individuals with a diagnosis of type-1 diabetes (T1DM) who, during the period 1-1-2000 to 31-12-2010 developed a first episode of severe HYPO (ICD-9-CM: 251.0-251.2) or DKA (ICD-9-CM: 250.10-250.13) leading to hospitalization (index event). The identified individuals were followed-up from the index event to a maximum of 10 years. We evaluated demographic characteristics of the study population and costs (hospitalizations, drugs and outpatient examinations/visits) from the National Health Service's perspective. **RESULTS:** During the observational period 1,321 T1DM subjects had at least one hospital admission for HYPO (27.5%) or DKA (72.5%) event. Median age (min-max) at the first HYPO or DKA event was 66.9 (1.3-96.7) and 39.4 (1.0-95.7) years, respectively. The overall mortality was 14.3 deaths/100 patient-years among HYPO subjects and 7.0 among DKA ones: the difference in mortality rates between groups disappeared once controlling for age. The mean costs with 95% C.I. (€/patient-year) for HYPO and DKA patients were, respectively 10,442 (8,755-12,129) and 9,720 (8,659-10,782) in the event year, 10,296 (8,446-12,145) and 5,805 (4,539-7,071) in the year before the event, and 5,619 (3,841-7,398) and 4,974 (3,912-6,035) in the year after the event. Hospitalizations represented the driver of total costs: in the year of event and in the year after it varied from 70 to 56% and 76 to 60% for HYPO and DKA patients, respectively. **CONCLUSIONS:** This study attempted to address the burden of severe T1DM HYPO and DKA events in Italy in an unselected population. The burden showed to be relevant in terms of incidence, mortality and costs.

DIABETES/ENDOCRINE DISORDERS – Patient-Reported Outcomes & Patient Preference Studies

PDB120

FACTORS ASSOCIATED WITH DISCONTINUATION OF SULFONYLUREA THERAPY IN TYPE 2 DIABETES PATIENTS WHO INITIATE INSULIN

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OBJECTIVES: Sulfonylureas (SU) represent a common treatment for type 2 diabetes (T2DM), but they are associated with hypoglycemia, weight gain, and possibly cardiovascular events. The purpose of this study is to evaluate factors associated with SU discontinuation after insulin initiation. **METHODS:** Patients ≥21 years old with a T2DM diagnosis between 2005 and 2012 were identified using the GE electronic medical records database. Index date was defined as the first insulin prescription (Rx) between 2006 and 2011. Patients were required to be on SU at the index date. Patients were excluded if they did not have medical records available ≥12 months before and after index date, were receiving insulin in the 12 months prior to index date, or had other forms of diabetes. Treatment with other diabetes medications in addition to SU and insulin were permitted in this study. SU discontinuation occurred when the gap between the end date of current SU Rx supply and the start date of subsequent SU supply was ≥90 days apart. Multivariate logistic regression was performed to identify factors associated with SU discontinuation. **RESULTS:** A total of 8,185 patients were selected, with mean age 64 years and 49% were male. 60.4% discontinued their SU Rxs within 1 year, with a median time from insulin initiation to SU discontinuation of 88 days. In the logistic regression, baseline diagnosed hypoglycemia (OR=2.29 [95% CI 1.03 - 5.10]; $p=0.04$) and baseline HbA1c (OR=1.04 [1.01 - 1.06]; $p=0.004$) were identified as factors associated with SU discontinuation. Additional factors included BMI (<25 kg/m2 vs. ≥30 kg/m2; OR=1.23 [1.03 - 1.46]; $p=0.03$), use of 3rd generation SU (OR=0.86 [0.78 - 0.95]; $p=0.002$), and chronic renal disease (OR=1.34 [1.07 - 1.67]; $p=0.01$). **CONCLUSIONS:** In conclusion, multiple factors, including efficacy and hypoglycemia, are associated with discontinuation of SU treatment after insulin initiation.

PDB121

IMPACT OF HYPOGLYCEMIA ON DISCONTINUING OR DOWN-TITRATING SULFONYLUREA AMONG TYPE 2 DIABETES PATIENTS WITHOUT INSULIN

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OBJECTIVES: Sulfonylurea (SU) may be discontinued or down-titrated due to hypoglycemia. Hypoglycemia may be more concerning for patients not receiving aggressive efficacy-driven treatment such as the dual-therapy of SU and insulin. A retrospective cohort study using the MarketScan database was conducted to assess the association between hypoglycemia and therapy changes (discontinuation or down-titration) among adults receiving SU therapy without insulin. **METHODS:** Patients with the first SU prescription (Rx) (index date) in 2009-2011, ≥18 years of age on the index date, and with ≥ 1 year continuous enrollment pre- and post-index were included. Patients were excluded if they received insulin within the 1-year pre- or post-index, had ≥2 SUs on the index date, or had type 1, gestational or secondary diabetes. Therapy changes were determined during the 1-year post-index period. Discontinuation occurred when consecutive SU fills were ≥90 days apart. Down-titration occurred when an SU fill had a lower equivalent dose than the index dose. Hypoglycemic events were identified using ICD-9 code between the index date and the therapy change or the end of the 1-year post-index period. Cox regression was used to evaluate the association between hypoglycemic events and therapy changes. **RESULTS:** 97,570 patients were included in the study, of which 50,854 (52.1%) experienced therapy changes within 1-year post-index. Patients with hypoglycemic events were at significantly higher risk for therapy changes (HR= 1.86 [1.75, 1.97]; p<. 01). Specifically, they were 197% more likely to down-titrate (HR= 2.97 [2.53, 3.46]; p<. 01) and 80% more likely to discontinue (HR=1.80 [1.69, 1.92]; p<. 01). **CONCLUSIONS:** Post-index hypoglycemic events are significantly associated with therapy changes among patients receiving SU without insulin, especially down-titration.

PDB122

GUIDELINE ADHERENCE AND CONTROL OF DIABETES MELLITUS WITH CO-MORBIDITIES IN A TERTIARY-CARE HOSPITAL IN MALAYSIA

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OBJECTIVES: To evaluate doctors' adherence to Malaysian Clinical Practice Guideline (CPG) 2009 in the management of diabetes mellitus with co-morbidities in Malaysia. **METHODS:** Cross-sectional study was done at a tertiary-care hospital in Malaysia. Total 51 physicians and 1020 patients' prescriptions written by same physicians (20 prescriptions per physician) were analyzed. All patients had diabetes mellitus with co-morbidities. Depending on the recommendations of CPG 2009, the prescriptions were clustered as adherent and non-adherent prescriptions. All obtained data were analyzed using descriptive and inferential statistics. **RESULTS:** A statistically significant negative association (Φ= 0.094, p-value=0.003) was observed between diabetes mellitus control and co-morbidities. CPG adherent had statistically weak negative association (Φ= - 0.081, p-value=0.010) with patients having co-morbidities (41.6%). No statistically significant association was observed between CPG adherence and any other co-morbidity. Majority of the patients received guidelines-compliant pharmacotherapy. The overall good level of physician adherence with CPG 2009 was observed in the management of diabetes mellitus with co-morbidities. **CONCLUSIONS:** The study explored several features of prescription pattern of the physicians involved in the management of diabetes mellitus with co-morbidities and recognized the need for improvement in their prescription pattern for treating the diabetes mellitus.

PDB123

THE RELATIONSHIP BETWEEN MACULAR EDEMA AND HEALTH OUTCOMES AMONG PATIENTS WITH DIABETES IN WESTERN EUROPE

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OBJECTIVES: Diabetes is associated with a number of microvascular and macrovascular complications. Diabetic macular edema (DME) is one of these complications and is among the leading causes of vision impairment. However, little data exists as to the patient-related burden of DME in Europe and the aim of the current study was to address this gap. **METHODS:** Data from the 2013 5EU (France, Germany, Italy, Spain, and UK) National Health and Wellness Survey (NHWS) were used (N=62,000). The NHWS is a patient-reported survey administered to a demographically representative sample of adults (with respect to age, sex, and region). Patients who reported experiencing DME were compared with a propensity-scored matched control group of patients with diabetes but without DME. Matching variables included demographics, comorbidities (Charlson comorbidity index [CCI]), and diabetes history. Post-match, patients with DME and matched controls were compared on health outcomes (SF-36v2, Work Productivity and Activity Impairment, and self-reported health care resource utilization) using general linear models. **RESULTS:** 4,088 patients reported diabetes (6.6%). Of these, 296 (7.2%) reported having DME. Patients with DME were more likely to have type 1 diabetes (26.4% vs. 8.5%), had been diagnosed with diabetes for longer (54.4% vs. 20.7% were diagnosed 16+ years), were more likely to use insulin (68.6% vs. 27.3%), and had a greater comorbidity burden (CCI = 2.2 vs. 1.6) (all p<.05), among other differences. After matching on these variables, patients with DME (n=286) reported significantly worse physical health status (PCS: 41.1 vs. 43.2), greater overall work impairment (36.2% vs. 25.64%), and